

IN THE CLAIMS:

The text of all pending claims are set forth below. Cancelled and withdrawn claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (previously presented), (currently amended), (cancelled), (withdrawn), (previously added), (reinstated - formerly claim #), (previously reinstated), (re-presented - formerly dependent claim #) or, (previously re-presented).

Please AMEND the claims in accordance with the following:

1. (Previously Presented) A multicast distribution system for transmitting and receiving a packet(s), the multicast distribution system comprising:
 - at least one router connected with a cable;
 - at least one node having an interface connected to the at least one router; and
 - a relay unit provided either in the at least one router or in the at least one node, wherein the relay unit relays a packet having a packet header including a destination address list that indicates a plurality of destination addresses and a distribution bit map including a plurality of bits each corresponding to a respective destination address to which the packet is to be transferred and indicating whether or not the packet has already been distributed to its respective destination address in a unicast route.
2. (Previously Presented) The multicast distribution system according to claim 1, wherein the at least one node comprises a node that transmits the packet having the packet header including the destination addresses list and the distribution bit map inspects a packet that reached the own interface, and accepts the packet that reached when the packet header includes the destination address of the own node in the destination address list thereof.
3. (Previously Presented) The multicast distribution system according to claim 1, further comprising a transmitter which transmits the packet having the packet header including the destination address list that includes the plurality of destination addresses and the distribution bit map including the plurality of bits corresponding to the destination addresses, in the case of distributing a same packet to the plurality of destinations.

4. (Previously Presented) The multicast distribution system according to claim 1, wherein when branching the packet, the value of a bit representing an address to which the packet has been distributed already is changed into a value which renders meaningless the address as to further distribution of the packet.

5. (Previously Presented) A node provided in a multicast distribution system for transmitting and receiving a packet(s) having a packet header, the node comprising:
a memory which stores

a list of a plurality of destination addresses,
a distribution bit map including a plurality of bits each corresponding to a respective destination address to which the packet is to be transferred and indicating whether or not the packet has already been distributed to its respective destination address; and
a transmitter which writes the list and the bit map into the header of the packet and transmits the packet header.

6. (Previously Presented) A router provided in a multicast distribution system for transmitting and receiving a packet(s) having a packet header, the router comprising:

a node which includes
a memory which stores,
a list of a plurality of destination addresses, and a distribution bit map including a plurality of bits each corresponding to a respective destination address to which the packet is to be transferred and indicating whether or not the packet has already been distributed to its respective destination address; and

a transmitter which writes the list and the bit map into the header of the packet and transmits the packet;

a receiving unit which receives a packet transmitted with a branching regularity mark indicating that the bits in the distribution bit map are sequentially arranged such that bits indicating undistributed nodes are continuously arranged; and

a searching unit which searches a route table provided in the router about two nodes at both ends of a row not distributed in the distribution bit map, omitting route search about other address when branching is not necessary, and searching the route table about all destinations only when branching is necessary.

7. (Previously Presented) The multicast distribution system according to claim 3, wherein the transmitter creates a branching regularity mark indicating that the bits in the bit map are sequentially arranged such that bits indicating undistributed nodes are continuously arranged, and transmits the packet together with the branching regularity mark.

8. (Previously Presented) The multicast distribution system according to claim 7, wherein when the router relays the packet having the branching regularity mark transmitted by the transmitter, the router searches a route table provided therein about two nodes at both ends of a row of nodes whose address are in the route table, the bits corresponding to the two nodes being indicated as not yet distributed in the distribution bit map, and omits route search about the remaining addresses when branching is not found necessary, or searches the route table about all the destinations only when branching is found necessary as a result of the route search.

9. (Previously Presented) The multicast distribution system according to claim 7, wherein the transmitter transmits a branch search packet having an address list for searching for presence of branching in distribution route in which the packet is distributed, receives at least one packet including data on the result of the searching, and creates based on the data a bit map in which the bits corresponding to the addresses in the address list in the search packet are arranged sequentially such that bits indicating undistributed nodes are continuously arranged.

10. (Previously Presented) The multicast distribution system according to claim 9, wherein the router searches about a route table provided therein in response to the request in the branch search packet transmitted by the transmitter, and relays the packet after adding the distribution bit map to an undistributed route list until the packet reached to the own router when branching the packet, or relaying the branch search packet directly if no branching is necessary.

11. (Previously Presented) The multicast distribution system according to claim 10, wherein further comprising a node that relays the packet and includes a client that returns the undistributed route list of the branch search packet directly to the transmitter.

12. (Previously Presented) The multicast distribution system according to claim 1, further comprising a transmitter which transmits a route search packet for requesting the at least

one router to search a route table provided therein and return a result of the search to the transmitter.

13. (Previously Presented) The multicast distribution system according to claim 12, wherein the router receives the route search packet from the transmitter, searches the route table provided therein, and relays the route search packet after adding a distribution bit map to the end of an undistributed route list indicating bits for representing undistributed destinations until the own router is reached when branching is found necessary, or the router relays the route search packet as it is when no branching is found necessary in the route.

14. (Previously Presented) The multicast distribution system according to claim 13, further comprising a node that relays the packet and includes a client that returns the undistributed route list of the route search packet directly to the transmitter.

15. (Previously Presented) The multicast distribution system according to claim 13, wherein in the case where the router finds that a plurality of routes to a neighbor router exist, indicated by only one or two destination addresses, as a result of route table search, the router relays the packet only to one such route that is indicated by two addresses or two such routes each of which indicated by only one address and omits relaying the packet to the balance of the routes.

16. (Previously Presented) The multicast distribution system according to claim 1, further comprising a transmitter capable of adding or deleting at least one destination address from or to the destination address list during transmission of a series of packets.

17. (Previously Presented) The multicast distribution system according to claim 16, wherein the transmitter searches route about the at least one destination address added and keeps the bits in the bit map sequentially arranged such that bits indicating undistributed nodes are continuously arranged.

18. (Previously Presented) The multicast distribution system according to claim 1, further comprising a transmitter that transmits a regularity inspection packet for checking whether or not the destination address list is in branching regularity where the bits in the bit map are

sequentially arranged such that bits indicating undistributed nodes are continuously arranged, and rearranges the bits when the transmitter receives a notice indicating that the bits are not in branching regularity from the at least one router.

19. (Previously Presented) The multicast distribution system according to claim 18, wherein the router receives the regularity inspection packet, searches the route table provided therein for the destination address list in the regularity inspection packet, and returns to the transmitter an irregularity notice notifying that the bits are not in branching regularity when the branching regularity is broken, and relays the regularity inspection packet otherwise.

20. (Previously Presented) The multicast distribution system according to claim 19, wherein the transmitter and the router writes in the header of the packet an address of one node, the bit in the bit map of which has a value indicating an undistributed state as a former address of the packet.

21. (Currently Amended) A method of multicast routing, comprising:
multicasting a multicast packet to multicast destinations using only unicast routing to route the multicast packet to the multicast destinations, where the multicast packet self-describes contains information identifying the multicast destinations, and as the packet is unicast routed it is modified with respect to the destinations therein to prevent the packet from being routed more than once to any of the destinations.

22. (New) A method of multicast routing, comprising:
multicasting a multicast packet to multicast destinations using only unicast routing to route the multicast packet to the multicast destinations, where the packet includes a packet header including a destination list that indicates a plurality of the multicast destinations and a distribution map comprising a plurality of flags each corresponding to a respective destination in the list to which the packet is multicast and indicating whether or not the packet has already been distributed to its respective destination in a unicast route.